On some special features of action of inhibitors on the kinetics of auto-oxidation of hydrocarbons. (Cont.) 65-4-3/12

features of inhibitors of I, II and III groups, observed under oxidising conditions, as in ГОСТ 981-52, are independent from the concentration of these substances, of the method of calculating the degree of oxidation of the oil (acid number or the amount of absorbed oxygen) and the presence of metals (iron and copper) in the reaction zone. The influence of 25 organic compounds (containing amine, phenolic groups and sulphide sulphur) which were known as inhibitors and their classification, based on the differences in their action on the individual stage of the oxidation process are given. (Table 3). The results obtained can be used not only for stabilisation of fresh oils, but also oils already in operation. There are 3 tables, 10 figures and 6 references, including 5 Slavic.

Card 2/2

ASSOCIATION: Thermo-technical Institute (Teplotekhnicheskiy Institut)

AVAILABLE:

65-10-7/13

AUTHORS: Ivanov, K.I. and Mikhel'son, A.Ya.

TITLE: The Influence of the Degree of Purification of Power Oils on Their Ability to Form Water Soluble Acids in the Initial Stages of Ageing (Vliyaniye glubiny ochistki energeticheskikh masel na sposobnost' ikh obrazovyvat' vodorastvorimyye kisloty v nachale stareniya)

PERIODICAL: Khimiya i Tekhnologiya Topliva i Masel, 1957, No.10, pp. 34 - 41 (USSR)

ABSTRACT: An investigation of the dependence of the ability of transformer and turbine oils to form water soluble acids in the initial stages of ageing on the degree of their refining with sulphuric acid was carried out. Properties of oils taken from the investigation are given in Table 1. Oils were successively treated with 93.5% sulphuric acid in 3% portions neutralised with 3% NaOH, and washed and dried. Thus from each distillate, samples were obtained of a different degree of purification. All samples were tested for stability according to ГОСТ 981-55 (results: Figs. 1-4, Table 2). It was established that all investigated distillates and oils prepared from them form, in the initial stages of ageing, volatile and non-volatile water-soluble acids in amounts decreasing with

Card 1/2

SOV/65-58-12-10/16

AUTHORS: Ivanov, K. I., Lipshteyn, R.A. and Mikhel'son, A. Ya.

TITLE: New Method for Evaluating the Behaviour of Transformer Oil During Normal Operation (Novyy metod otsenki povedeniya transformatornykh masel v ekspluatatsii)

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel, 1958, Nr 12, pp 46-48 (USSR)

ABSTRACT: A method has been developed in the VTI Laboratory for determining more reliably the behaviour in operation of transformer oil, i.e. the behaviour after ageing. The method consists in ageing the oil in a specially equipped small power transformer with a tank capacity of 12 litres operating at 95°C under no-load conditions at a 100% over-voltage, i.e. with a maximum of 100% increase in the field strength with simultaneous blowing of oxygen onto the oil at a rate of 25 ml/min per 10 kg of oil. During the tests the oil was heated by the losses of the transformer itself and also by an additional 140 W immersion heater and a 1800 W hot-plate placed under the transformer. Due to the fitting of an additional tank and circulation of the oil in the zone of the field

Card 1/3

New Method for Evaluating the Behaviour of Transformer Oil During Normal Operation

at a relatively high test temperature of 95 ± 0.5°C and saturation of the oil with oxygen, the ageing process is accelerated and lasts 750 hours, i.e. the ageing is considerably slower than in various "express" methods. The testing of the oil was effected simultaneously in two transformers in two stages. The first stage, lasting 100 hours, enables determination of the tendency of the oil to form water soluble acids during the initial stage of ageing; the second stage lasting 650 hours permits evaluating the ability of the oil to resist ageing over long periods. During the first stage, the oxygen is fed in continuously, during the second stage, the oxygen is fed in solely during the time when the transformer is actually in operation, i.e. 7 hours per day. At certain intervals samples are taken and the total acidity, the content of water soluble and volatile acids, the saponification number, the content of active oxygen and hydrogen, surface tension etc. are determined and also the loss factor and the break-down voltage. At the end of the tests the quantity of precipitate is

New Method for Evaluating the Behaviour of Transformer Oil During Normal Operation

also determined. Between the individual tests, the transformers are carefully cleaned by heating them twice over a long period, each time with a new portion of fresh oil. The here described method permits evaluating of the behaviour of transformer oils under conditions closely resembling normal operating conditions. During the first 100 test hours, it is possible to evaluate the ability of transformer oils to form low-molecular water soluble acids at the beginning of the ageing process and during a subsequent 650 hours it is possible to determine the behaviour of the oil under conditions of operation over long periods. Test results are given which were obtained for some Soviet oils, one of them containing 0.3% of the anti-oxidant 2,6-di-tert.butyl-4-methylphenol. There are 3 figures.

ASSOCIATION: Vsesoyuznyy teplo-tekhnicheskiy institut (All-Union Thermo-technical Institute)

AUTHORS: Ivanov, K. I., Vilyanskaya, Ye. D. SOV/20-121-1-29/55

TITLE: On the Interaction Between the Hydrocarbon Autooxidation Inhibitors and Alkyl- and Peroxide Radicals (O vzaimodeystvii zamedliteley avtookisleniya uglevodorodov s alkil'nymi i perekisnymi radikalami)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 1, pp. 107-110 (USSR)

ABSTRACT: The authors proved already earlier that some oxidation inhibitors of the mineral oil hydrocarbons in the liquid phases by molecular oxygen are able to retard the oxidation only if they are added to the substance to be oxidized (white oil = beloye maslo) before the beginning of the reaction; other inhibitors, however, cause this effect if they are introduced in different stages of the oxidizing processes. It was assumed that the inhibitors of the first group are able to bind active particles which initiate the chain reaction (mainly the hydrocarbon radicals R); the inhibitors of the second group are, however, assumed to interact with peroxide compounds. These peroxide compounds are formed in the initiating stage (hydroperoxides ROOH) as well as in the development stage of the re-

Card 1/4

On the Interaction Between the Hydrocarbon Autooxidation Inhibitors and Alkyl- and Peroxide Radicals

action and yield inactive products (Ref 1). Later a third group of inhibitors was found which retard as well the autooxidation if they are added before the beginning, but are in contrast to the inhibitors of the second group able to stop a developing (not inhibited) process only in its autocatalytic stage. In order to solve all problems connected with this problem the authors introduced alkyl ($R^{\cdot}$)- and peroxide ($RO_2^{\cdot}$) radicals immediately into the white oil during its oxidation in order to investigate their influence on the activity of the antioxidants of all 3 groups in different stages of oxidation. The first group was represented by p-oxydiphenylamine, the second by 4,4'-diaminodiphenyldisulfide, and the third group by 2,6-di-tert.-butyl-4-methyl-phenone (yanol). Acetyl peroxide served as source of the hydrocarbon radicals. The peroxide radicals were obtained from an interaction between cumol hydroperoxide and cobalt naphthenate (Ref 5). The results of the first series of experiments (Fig 1) show that the introduction of the $^{\cdot}CH_3$-radicals in the initiating stage of the reaction accelerates to a great extent the oxidation of the not in-

On the Interaction Between the Hydrocarbon Autooxidation Inhibitors and Alkyl- and Peroxide Radicals

hibited oil. The induction period of the process is practically eliminated (Curves 1, 2, Fig 1). The inhibitors of the first and third group retard in the presence of the added $\cdot CH_3$-radicals the beginning of the oxidation of the oil, in contrast to the inhibitor of the second group (Curves 4, Fig 1). In the second experimental series the same antioxidants were investigated with peroxide radicals $C_6H_5C(CH_3)_2O\dot{O}$. From the obtained results (Fig 2) we may conclude that the introduction of these radicals at the beginning of the reaction accelerates as well to a great extent the oxidation process of the oil. The antioxidants of the second and third group maintain their retarding effect in the case of the introduction of $RO_2^{\cdot}$-radicals before as well as after the beginning of the oxidation, as well as in the case of addition of these inhibitors to the oil which oxidizes under the influence of the introduced radicals (Fig 2, B,V). An antioxidant of the first group does not stop the reaction in the case of an introduction of $RO_2^{\cdot}$-radicals, neither

On the Interaction Between the Hydrocarbon Autooxidation Inhibitors and Alkyl- and Peroxide Radicals

before nor after beginning of the experiment. There are 2 figures and 9 references, 7 of which are Soviet.

ASSOCIATION: Vsesoyuznyy teplotekhnicheskiy nauchno-issledovatel'skiy institut im. F. E. Dzerzhinskogo (All-Union Thermotechnical Scientific Research Institute, imeni F.E. Dzerzhinskiy)

PRESENTED: December 27, 1957, by N. N. Semenov, Member, Academy of Sciences, USSR

SUBMITTED: December 20, 1957

1. Oxidation inhibitors--Performance 2. Oxidation inhibitors --Chemical reactions 3. Oxidation inhibitors--Test results 4. Alkyl radicals--Test results 5. Peroxide radicals--Test results 6. Mineral oils--Oxidation

IVANOV K.I.

Oxidation of Hydrocarbons in the Liquid Phase; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959, 334 p. (Akad. nauk sssr, In-ta khimicheskoy fiziki)

Denisov, Ye.T. [Moscow State University imeni M. V. Lomonosov]. Characteristics of the Action of Inhibitors on Side-Chain Decomposition Reactions 66

Ivanov, K.I., and Ye.D. Vilyanskaya [Vsesoyuznyy teplotekhnicheskiy nauchno-issledovatel'skiy institut imeni F. E. Dzerzhinskogo (All-Union Heat Engineering Scientific Research Institute imeni F. E. Dzerzhinskiy)]. Effect of Inhibitors on the Kinetics of the Autoxidation of Hydrocarbons 77

The authors investigate the effect of various inhibitors on the autoxidation of hydrocarbons from petroleum crudes, as well as various stages in the development of the oxidation process.

Card 4/18

SOV/96-59-9-12/22

AUTHORS: Ivanov, K.I. (Dr. Chem. Sci.) and Vilyanskaya, Ye.D., (Cand. Chem. Sci.)

TITLE: Fire-resisting Turbine Oils

PERIODICAL: Teploenergetika, 1959, Nr 9, pp 65-68 (USSR)

ABSTRACT: There is much interest abroad in fire-resisting turbine oils and work on this subject has also been done in the All-Union Thermo-Technical Institute. Besides serving to lubricate and cool the bearings, turbine oil is used as a hydraulic fluid in the governor gear, where it is under pressure. It is this oil under pressure that constitutes the main fire risk and so sometimes the object is to replace only this part of the mineral lubricating oil. The synthetic oil described in the present article is intended to replace all the mineral lubricating oil in the turbine system. A synthetic lubricant was developed based on organic phosphorus compounds. The principal physical properties of this lubricant are compared with those required by the standard specification and with those of mineral turbine oil in Table 1. The synthetic lubricant has a self-ignition temperature in air of 740°C, it is as close to the specification as normal turbine oil,

Card 1/3

Fire-resisting Turbine Oils

is not subject to foaming and is not toxic at low concentrations. A number of tests were made over and above those called for in the specification, particularly in respect of the effect of the material on insulation. The results which are given in Table 2 show that the new material has much less influence than mineral oil on most of the insulating materials used in alternators. A sample of the fire-resistant lubricant was tested on a special bearing rig illustrated diagrammatically in Fig 1. The test results are given in Table 3 together with comparable results for a normal petroleum lubricant, and it will be seen that the synthetic lubricant has a good resistance to ageing and foaming. Sufficient data is now available to indicate the desirability of making full-scale tests, perhaps first only in a governor system, but preferably in an entire turbine lubrication system. Some small changes will be required in turbine lubrication systems; for example, the lubricant is of higher specific gravity than water and so different arrangements must be made to drain water from the lubricant tanks. For health reasons, it is preferable that the synthetic lubricant

Fire-resisting Turbine Oils

should not be exposed at temperatures above 50 °C. A four-ton batch of the new lubricant has been made for testing in service.

Card 3/3 There are 1 figure, 3 tables and 9 references, of which 1 is Soviet, 3 are German and 5 are English.

ASSOCIATION: Vsesoyuznyy teplotekhnicheskiy institut
(All-Union Thermo-Technical Institute)

S/096/60/000/011/002/018
E194/E184

AUTHORS: Ivanov, K.I. (Doctor of Chemical Sciences), Vilyanskaya, Ye.D. (Candidate of Chemical Sciences), and Luzhetskiy, A.A. (Engineer)

TITLE: New Developments in the Theory and Practice of Using Anti-oxidants in Oils for the Power Industry

PERIODICAL: Teploenergetika, 1960, No 11, pp 34-39

TEXT: The theory and practice of the use of anti-oxidants in turbine and transformer oils is reviewed. The authors classify anti-oxidants into three groups (see Table 1). Inhibitors in the second group are able to retard oxidation that has already commenced, those of the first group are not, whilst those of the third group can retard the process only in the auto-catalytic stage. The tests were made with white oil but were found to be valid also for Baku transformer oil. The behaviour of the different groups of inhibitors depends on their ability to interact differently with the intermediate oxidation products, namely, hydroperoxides and peroxides. Proposed mechanisms of inhibitor action are given in Table 2. It is found that the chemical nature of the functional group occurring in the anti-oxidant molecule

Card 1/3

S/096/60/000/011/002/018
E194/E184

New Developments in the Theory and Practice of Using Anti-oxidants in Oils for the Power Industry

does not suffice to relate the anti-oxidant to one or other of the three classes given. Apparently, the position of the functional group in the inhibitor molecule is most important. Two important practical conclusions follow, namely: it is possible to use anti-oxidants in turbine and transformer oils not only when they are new but also after they have been in service and are partially oxidised, and it is also possible to reliably stabilise regenerated oil in which some traces of oxidation products are usually left; specially selected mixtures of anti-oxidants may be used to stabilise oils. Anti-oxidants of the second and also of the third groups should be the most effective in retarding oxidation that has already commenced, whilst anti-oxidants of the first group are not suitable for this purpose. This conclusion has been confirmed both by laboratory oxidation tests and in the field by tests on turbines and transformers. Theoretical considerations are given why the simultaneous application of anti-oxidants of the different groups (1 and 2), (2 and 3), and (1 and 3) can give increased effectiveness. It is pointed out that the published works of

Card 2/3

S/096/60/000/011/002/018
E194/E184

New Developments in the Theory and Practice of Using Anti-oxidants in Oils for the Power Industry

British and American authors are not in agreement on this point. However, the laboratory test results given in Tables 3 and 4 and Figs 1-3 and field tests show that a suitable mixture of two additives can be highly efficient in turbine and transformer oils. It was also shown that no enhancement of effect is produced when anti-oxidants of the same group are mixed together, except in the case of anti-oxidant ВТИ-8 (VTI-8), which contains sulphur. The importance of secondary properties of anti-oxidants such as their influence upon corrosion or electrical properties of the oil and particularly their solubility is discussed. Fig 4 shows the neutralisation value as function of time for a turbine before and after using inhibited turbine oil containing a mixture of the above mentioned additive VTI-8 and p-oxydiphenylamine. This article goes further than most in naming the additives and their concentrations used in the tests. There are 4 figures, 4 tables and 17 references: 10 Soviet, 6 English and 1 French.

ASSOCIATION: Vsesoyuznyy teplotekhnicheskiy institut
(All-Union Thermo-Technical Institute)

Card 3/3

S/081/62/000/007/027/033
B168/B101

AUTHORS: ~~Ivanov, K. I.~~, Lipshteyn, R. A., Mikhel'son, A. Ya., Luzhetskiy, A. A.

TITLE: A method of evaluating the operational characteristics of inhibited insulating oils

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 7, 1962, 550-551, abstract 7M197 (Sb. "Prisadki k maslam i toplivam". M., Gostoptekhizdat, 1961, 290-297)

TEXT: A test-bench method of evaluating the operational characteristics of transformer oils has been devised (a diagram of the apparatus is given). Essentially this method consists of testing the oil for aging over a period of 750 hours in a low-power transformer running without load at twice the maximum field intensity. In order to reduce the time taken by the test the aging process of the transformer oil is speeded up by using special devices for heating the oil to 95°C, for saturating it with oxygen and for circulating the oil in the field zone. The quality of the transformer oil is determined, while the oil is in use, from changes in a

Card 1/2

S/081/62/000/007/027/033
B168/B101

A method of evaluating the ...

group of characteristics - namely, tendency to form low-molecular water-soluble acids in the initial stages of aging (after 100 hours), general acidity, quantity of sediment, tangent of angle of dielectric losses (tan δ), condition of the solid insulation, corrosive attack on copper, etc. With this method it is possible to make a more objective and broader evaluation of the operational characteristics of a transformer oil than by other, familiar, methods. A number of tests were carried out by this method on home-produced commercial and experimental oils and also on imported commercial oils. [Abstracter's note: Complete translation.]

Card 2/2

S/065/61/000/007/005/005
E194/E435

AUTHORS: Lipshteyn, R.A., Ivanov, K.I. and Mikhel'son, A.Ya.

TITLE: Assessment of the service properties of transformer oils

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1961, No.7, pp.63-70

TEXT: Existing laboratory methods of testing transformer oils do not assess them fully. Accordingly, the Laboratoriya nefti (Petroleum Laboratory) of the VTI has developed a method of assessing transformer oil in small transformers. These transformers operate at twice the rated voltage and, to reduce the test time, ageing of the oil is intensified by heating it to a temperature of 95°C, saturating it with oxygen and by circulation of the oil. The oil is assessed by measuring the contents of low and high molecular weight acids, the amount of sludge, the dielectric loss angle, the condition of the solid insulation, corrosivity to copper and other tests. These rig tests give results that are in agreement with VTI experience of the service performance of the oils in question and data obtained by A.A.Luzhetskiy. Test results on a considerable number of oils are

Card 1/3

given. In general, Soviet oils from low sulphur crudes were unsatisfactory usually because of excessive formation of low molecular weight acids or sludge. Even the best of the Baku oils did not give such good rig test results as imported British and French oils. Oils produced from high sulphur crudes were also generally unsatisfactory. Di-terbutylparacresol (DBPC) effectively improved the oxidation stability of many of the oils. However, the results of rig tests on inhibited oils are sometimes not so favourable as might be expected from laboratory bench tests. The usual relationship between depth of refining and inhibitor response is reported. With base oil of satisfactory quality, the content of DBPC may be reduced from 0.3 to 0.2%, but further reduction to 0.1% gives poor performance. The All-Union Scientific Research Institute of the Petroleum Industry (VNII NP) and the Novo-Kuybyshev Refinery developed a method of manufacturing hydrofined transformer oil from high sulphur crudes without solvent treatment. Although bench test results are satisfactory, heavy sludge formation was experienced in laboratory transformers and, accordingly, stricter requirements were applied to this oil in

Assessment of the service ...

respect of sludge formation in the fourteen hour oxidation test of the standard ГОСТ 981-55 (GOST 981-55). The second production batch of hydrofined oil was also refined by percolation and gave much better rig test results. On the basis of the work, it is recommended that if transformer oils are made from new crudes by new refinery processes, or with new additives, they should be admitted to general use only after being subjected to a 750 hour rig test on experimental transformers using the procedure of the VTI. The existing standard for transformer oils ГОСТ 982-56 (GOST 982-56) should be tightened up in respect of dielectric loss angle, and for aromatic oils in respect of sludge formation after oxidation. Some tightening up in neutralization value after oxidation is also to be recommended. When further experience has been accumulated the standard should be extended to include such characteristics as colour, interfacial tension, stability of electrical properties on laboratory ageing, copper strip test and gassing properties in hydrogen atmosphere. There are 2 figures, 4 tables and 5 Soviet references.

ASSOCIATION: VTI im. Dzerzhinskogo (VTI im. Dzerzhinskiy)

27917
S/096/61/000/011/002/006
E194/E155

11.0910

AUTHORS: Ivanov, K.I., Doctor of Chemical Sciences, Vilyanskaya, Ye.D., Candidate of Chemical Sciences, Kazanskiy, K.M., Engineer, Shilankov, B.F., Engineer, and Fedorova, I.V., Engineer

TITLE: Service test results with fire resistant turbine oil "Ivviol' 1A"

PERIODICAL: Teploenergetika, no. 11, 1961, 27-29

TEXT: Work on fire-resistant hydraulic fluids and lubricants for turbines is proceeding in several countries. For example, Pydraul F-9 is suitable as a hydraulic fluid but not as a bearing lubricant. In 1958-59 the Laboratoriya nefti (Petroleum Laboratory) of VTI developed a fire-resistant substitute for turbine oil, grade Ivviol' 1A, intended for use both as hydraulic fluid and lubricant. Laboratory test results were published by two of the present authors (Ref.3: K.I. Ivanov, Ye.D. Vilyanskaya, Teploenergetika no.9, 1959) and then an experimental batch of the material was made for field tests. The viscosity of the material was 20 centistokes at 50 °C, the flash point was 238 °C, open cup,

Card 1/3

Service test results with fire ....

and the fire point in air 740 °C. The specific gravity at 20 °C is 1.17. The material meets the requirements of the conventional turbine oil specification in respect of stability and neutrality. Before the charge was put in the turbine certain changes were made; the cylindrical filters in the oil tank were replaced by gauze screens which could be cleaned during operation of the turbine; the design of one of the main glands was improved. In the early period of operation with Ivviol 1A, foaming was observed but was cured by the addition of a silicone anti-foam agent to the amount of 0.1% by weight. After two or three months' service the brass gauze screens in the oil tank were attacked by the fluid. During the entire service period the make-up of fire-resistant fluid was 200 kg, whereas the amount of oil that had been required in a corresponding period was 800 kg. The difference is presumably due to the lower volatility of the fire-resistant material. After a period of service the viscosity and neutrality of the fluid were unchanged and all parts of the turbine, which were carefully examined, were in good condition. The fluid was on test for 5400 hours, during which the turbine ran without stopping for 120 days, at 18 hours a day for 110 days,

Card 2/3

Service test results with fire ....

and at 12 hours per day for 45 days. The water content of the fluid ranged from 0.02 to 0.2%. Water is easily removed from the fire-resistant fluid because it accumulates on the surface of the oil tank from which it readily evaporates. The results indicate that the oxidation stability of the synthetic fluid is better than that of the usual mineral oil. The fire-resistant fluid darkened in colour because it attacked the protective paint used in the system. Ivviol' 1A is toxic if ingested, but if normal hygienic precautions, typical of those used with similar fluids elsewhere, are observed there is no risk on this account. The difficulties with foaming and corrosion of brass can easily be overcome and it is considered that Ivviol' 1A can replace mineral oil in turbine lubricating and hydraulic systems of the type considered.
There are 1 figure, 2 tables and 3 references: 2 Soviet-bloc and 1 English. The English language reference reads as follows:
Ref.1: Harris Product Engineering, vol. XX, 1954.
ASSOCIATION: Vsesoyuznyy teplotekhnicheskiy institut - Mosenergo
(All-Union Heat Engineering Institute and Mosenergo)

Card 3/3

88706

15 6600

S/076/61/035/001/004/022
B004/B060

AUTHORS: Ivanov, K. I. and Vilyanskaya, Ye. D.

TITLE: Reversal of the negative catalytic effect of aniline in its action upon various stages of autoxidation of hydrocarbons

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 1, 1961, 50-57

TEXT: In their study of the effect of oxidation inhibitors upon the oxidation of hydrocarbons (Refs. 1,2) the authors found that aniline acts as an oxidation inhibitor if added to the hydrocarbon prior to the beginning of oxidation, but that it speeds up oxidation if added after oxidation. Aniline thereby differs from inhibitors of the first group (diphenyl amine, phenyl-β-naphthyl amine, p-hydroxy diphenyl amine, methyl aniline, dimethyl aniline, antipyrine), which, while no more acting as inhibitors once oxidation is started, do not have any accelerating effect either; such of the second group (α-naphthyl amine, α-naphthol, p-phenylene diamine, diethyl-p-phenylene diamine, p-amino phenol, hydroquinone, 4,4'-diamino diphenyl sulfide, p-tert-butyl phenol, benzidine, o-tolidine), which inhibit oxidation at all stages, and such of the third group

Card 1/4

88706
S/076/61/035/001/004/022
B004/B060

Reversal of the negative catalytic ...

(β-naphthyl amine, β-naphthol, m-phenylene diamine, diphenyl-p-phenylene diamine, phenyl-α-naphthyl amine, di-α-naphthyl-p-phenylene diamine, di-β-naphthyl-p-phenylene diamine, o-amino phenol, diethyl-o-amino phenol, resorcinol, 2,6-di-tert-butyl-4-methyl phenol, pyramidon), which inhibit oxidation only prior to and in the autocatalytic stage, but no more once the reaction has attained a constant rate. This difference in the three groups is due to the different position of the functional groups. o-, m-, and p-toluidine behaved quite like aniline. The authors of the present article wanted to study this behavior more closely. The experiments were carried out with refined medicinal oil (d_n^{20} = 0.8810, ν_{50} = 32.2 centistokes). The minimum concentration at which aniline has an inhibiting or an accelerating effect upon oxidation (2 wt%) is higher than the concentration of the other antioxidants (0.1-0.2%). The following experiments were made: a) addition of p-hydroxy diphenyl amine (1st group) and aniline to oil, beginning of oxidation test, and, after five hours, addition of further 3% aniline; b) addition of 4,4'-diamino diphenyl disulfide (2nd group) and aniline, and, after five hours, addition of 3% aniline; c) acceleration of oxidation by the addition of 3% aniline five

Card 2/4

hours after beginning of oxidation, followed by addition of p-hydroxy diphenyl amine; d) like c), but addition of 4,4'-diamino diphenyl disulfide. Results: the reagent of the 1st group (experiments a and c) had no more an inhibiting effect, while the reagent of the 2nd group (experiments b and d) brought oxidation to a standstill. Aniline thus behaves in much the same way as the $RO_2^{\cdot}$ radical, which is likewise not passivated by the 1st group, while it is by the 2nd group. It is assumed that aniline enters into interaction with the reaction products in the case of oil already undergoing oxidation to form a radical which combines with oxygen to form a peroxide radical. There are 6 figures, 1 table, and 6 references: 4 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Vsesoyuznyy teplotekhnicheskiy institut im. F. E. Dzerzhinskogo (All-Union Institute of Heat Engineering imeni F. E. Dzerzhinskiy)

SUBMITTED: April 8, 1959

88706
S/076/61/035/001/004/022
B004/B060

Reversal of the negative catalytic ...

Legend to Fig. 1. a) acid number of the oil, mg KOH; b) time, hours.

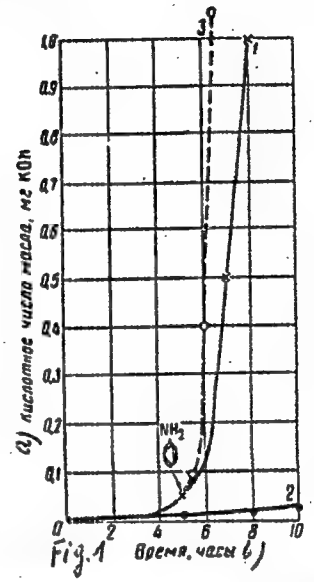


Fig. 1

Card 4/4

S/065/62/000/007/002/002
E194/E484

AUTHORS: Ivanov, K.I., Zhakhovskaya, V.P.

TITLE: The nature of water soluble acids formed in the initial stages of ageing of transformer and turbine oils

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.7, 1962, 58-62

TEXT: The authors studied by a chromatographic method the amounts of steam distilled volatile aliphatic acids occurring during the early service ageing of transformer and turbine oils. It was first decided to study the saturated mono-basic fatty acids because they can easily be separated by steam distillation from the other acidic compounds which might be present. The choice proved justified for in none of the steam distilled materials did ordinary qualitative tests reveal any unsaturated fatty acids, phenols or cresols. Samples of turbine and transformer oil from service were thoroughly extracted with distilled water. The extract was neutralized with NaOH and concentrated by evaporation, reacidified and steam distilled. The neutralized distillate was evaporated to dryness and after dissolving in a suitable solvent

Card 1/2

The nature of water soluble ...

was put through a chromatographic column. The acids were removed from the column in order of decreasing molecular weight starting with iso-valerianic acid eluted by 0.5% n-butanol in chloroform. Formic acid was eluted last with 25 to 30% butanol in chloroform. The experimental results are tabulated. The total acidity of the transformer oil ranged from 0.04 to 0.7 mg KOH/g and that of the turbine oil from 0.06 to 0.31 mg KOH/g. The amount of volatile acids found by the method described ranged from a quarter to a third of the total water soluble acids content, except in the case of transformer oil from eastern crude where the amount was very much less. The principal volatile acid in the samples tested was formic (56 to 84%). Acetic, propionic and oleic acids are present in smaller quantities (1.5 to 11.5%). The transformer oils tested contained relatively large amounts (13 to 25%) of iso-valerianic acid. There are 1 figure and 2 tables.

ASSOCIATION: VTI

Card 2/2

IVANOV, K.I., doktor khimicheskikh nauk; MIKHEL'SON, A.Ya., inzh.

International method of testing insulating oils for artificial aging. Vest.elektroprom. 33 no.1:5-9 Ja '62. (MIRA 14:12)
(Insulating oils--Testing)

DZHUVARLY, Chingiz Mekhtiyevich; IVANOV, Konstantin Ivanovich; KURLIN, Mikhail Vladimirovich; LIPSHTEYN, Rafail Aleksandrovich; MUKHARSKAYA, Leyli Adamovna; LEVINA, Ye.S., ved. red.; YAKOVLEVA, Z.I., tekhn. red.

[Insulating oils] Elektroizoliatsionnye masla. [By] Ch.M. Dzhuvarly i dr. Moskva, Gostoptekhizdat, 1963. 274 p. (MIRA 16:4)

(Insulating oils)

L 13338-63 EPR/EPF(c)/EWT(m)/BDS Ps-4/Pr-4 RM/WW

ACCESSION NR: AP3002775 S/0204/63/003/003/0352/0359

AUTHOR: Ivanov, K. I.; Savinova, V. K.; Zhakhovskaya, V. P. 65 64

TITLE: Thermal stability of alkyl hydroperoxides

SOURCE: Neftekhimiya, v. 3, no. 3, 1963, 352-359

TOPIC TAGS: isomeric alkyl hydroperoxide, alkyl hydroperoxide decomposition

ABSTRACT: The investigated isomeric alkyl hydroperoxides can be grouped according to their increasing stability against thermal decomposition. Under the investigated conditions their stability in solutions is as follows: secondary, primary, and tertiary alkyl hydrocarbons. In an inert media of chlorobenzene solution under a nitrogen atmosphere and at 110C, the direction of thermal decomposition is different for alkyl hydroperoxides of different structures. The primary alkyl hydroperoxides under these conditions decomposes primarily into hydrogen and acid with the same number of atoms. The hydrogen skeleton of the secondary pentanehydroperoxide-2 partly breaks down with the formation of methane and butyric acid. The tertiary hydroperoxide decomposes by a complex radical chain reaction. The composition of the gaseous phase and

Card 1/2

L 13338-63

ACCESSION NR: AP3002775

the nature of the solvent show a large effect on the direction and to some extent, on the rate of the alkyl hydroperoxide decomposition. The gaseous oxygen is vigorously absorbed by the solvents of the decomposing isomeric alkyl hydroperoxides and even takes part in their decomposition in an inert solvent such as chlorobenzene. In the treatment of autooxidation mechanism of petroleum and of paraffinic hydrocarbons especially, one must consider not only the effect of the decomposition in the liquid but also in the gaseous media. In addition to this the possibility of direct formation of acids during the decomposition of alkyl hydroperoxides must also be considered. Orig. art. has: 2 tables.

ASSOCIATION: Vsesoyuzny*y teplotekhnicheskiy nauchno-issledovatel'skiy institut im. F. E. Dzerzvinskogo (All-Union Scientific Research Institute of Heat Engineering)

SUBMITTED: 03Dec62	DATE ACQ: 23Jul63	ENCL: 00
SUB CODE: 00	NO REF SOV: 004	OTHER: 010

Card 2/2

GORBANENKO, A.D.; ZEGER, K.Ye.; ZERNOVA, T.A.; IVANOV, K.I.; LIPSHTEYN, R.A.; LUZHETSKIY, A.A.; POVOLOTSKIY, L.I.

Importance of ash content in boiler fuels for electric power plants. Standartizatsiia 28 no.1:24-25 Ja '64. (MIRA 17:1)

IVANOV, K.I., kand.tekhn.nauk

Organize the production of heavy-duty core barrel rock drills.
Gor.zhur. no.4143-48 Ap '64. (MIRA 17:4)

IVANOV, K.I.; ANDREYEV, V.D.; MANZIYENKO, G.G.; USHKOV, N.N.

Investigating the efficiency of using pistons of various design for rock breaking. Gor. shur. no. 12:45-47 D '65.
(MIRA 18:12)

L 02203-67 EWT(m)/EWP(w)/T IJP(c) WW/RM/WE/GD

ACC NR: AT6015194 (A,N) SOURCE CODE: UR/0000/66/000/000/0046/0049

AUTHOR: Alekseyeva, M. P.; Ivanov, K. I.

ORG: none

TITLE: Determining the thermal stability of fuels in a rocking autoclave

SOURCE: Metody otsenki ekspluatatsionnykh svoystv reaktivnykh topliv i smazochnykh materialov (Methods for the performance evaluation of jet propellants and lubricants). Moscow, Izd-vo Mashinostroyeniye, 1966, 46-49

TOPIC TAGS: petroleum fuel, fuel thermal stability, fuel corrosiveness, fuel deposit formation

ABSTRACT: The effect of movement on the values of the heat stability indices of reactive fuels was studied in the laboratory utilizing a rocking autoclave to simulate the motion of fuel in tanks. Tests run on T-1 and T-5 fuels and on fuels containing cracked products showed that the thermo-oxidative processes in motionless and in agitated fuels do not differ too significantly--there is little effect on deposit and resin formation and acidity is just noticeably higher. Orig. art. has: 3 figures and 2 tables.

SUB CODE: 21, 14/ SUBM DATE: 10Dec65/ ORIG REF: 001

Card 1/1 vmb

IVANOV, K.I.

Practically important tasks of the geography of agriculture.
Vop. geog. no.41:206-214 '57. (MIRA 10:12)
(Geography, Economic) (Agriculture)

ZVORYKIN, K.V.; IVANOV, K.I.

Tasks of the geographical study of natural and economic conditions connected with agricultural production. Geog. i khoz. no.1:35-39 '58. (MIRA 12:1)
(Agriculture--Economic aspects)

IVANOV, K.I.

More attention to geographical studies in agriculture.
Geog. v shkole 21 no.5:1-5 S-O '58. (MIRA 11:10)
(Geographical research) (Agricultural physics)

GEDYMIN, A.V.; ZVORYKIN, K.V.IVANOV, K.I.

"Agrarian atlas of the German Democratic Republic" [in German] and the system of the qualitative evaluation of agricultural lands in the German Democratic Republic. Vop.geog. no.43: 190-205 '58. (MIRA 12:5)
(Germany, East--Agriculture--Maps)
(Germany, East--Soil surveys)

IVANOV, K.I.; LEBEDEV, P.N.

Compiling maps of the agricultural use of soil as one of the contacts between teaching geography and life. Geog. v shkole 25 no.2:38-43 Mr-Ap '62. (MIRA 15:2)

(Agricultural geography)

IVANOV, K.I., red.; BELOTSERKOVSKIY, M.Yu., red.; BOLYSHEV, N.N., red.; GEDYMIN, A.V., red.; GLAZOVSKAYA, M.A., red.; GOLOVENKO, S.V., red.; ZVORYKIN, K.V., red.; IGNAT'YEV, G.M., red.; KUZNETSOV, G.A., red.; LEBEDEV, N.P., red.; LEBEDEV, P.N., red.; RAKITNIKOV, A.N., red.; SHEYNIN, L.B., red.; GREBTSOV, P.P., red.; YERMAKOV, M.S., tekhn. red.

[Accounting for and the evaluation of agricultural land] Uchet i otsenka sel'skokhoziaistvennykh zemel'. Pod red. K.I. Ivanova. Moskva, Izd-vo Mosk. univ., 1963. 385 p. (MIRA 16:7)

(Farm--Valuation) (Soils--Classification) (Cadasters)

IVANOV, K.I.; VESKOV, M.I.; KHOMYLOV, G.S.; MEL'NIKOV, S.S.; BETANELI, K.P.

Technological layouts for mining coal without men and without timbering. Gor. i ėkon. vop. razrab. ugol'. i rud. mest. no.1: 49-66 '62. (MIRA 16:7)

(Coal mines and mining) (Automation)

IVANOV, K.I.

Territorial (geographical) production plans in agriculture. Vest. Mosk. un. Ser. 5: Geog. 20 no.5:3-10 S-O '65.
(MIRA 18:12)

1. Kafedra ekonomicheskoy geografii SSSR Moskovskogo gosudarstvennogo universiteta. Submitted June 10, 1965.

IVANOV, K.I.; SOLYANIKOV, B.G.; MANZIYENKO, G.G.

Improve the quality of drill steel. Gor. zhur. no.4:44-47 Ap '65.
(MIRA 18:5)

KULIYEV, R.Sh.; IVANOV, K.I.; [illegible], F.I.; SHAKHNOVICH, M.I.; LIPSHTEYN, R.V.; MUSAYEV, G.T.

Functional properties of transformer oil produced from Siazan' petroleum. Neftepер. i neftekhim. no.4:9-11 '65.

(MIRA 18:5)

1. Bakinskiy institut neftekhimicheskikh protsessov i Vsesoyuznyy teplotekhnicheskiy institut.

1. IVANOV, K. I.

2. USSR (600)

"The Basic Features of the Hydrochrmical Balance of the Preestuarial Areas (of the Volga River and of the Northern Caspain Sea.)" Trudy GOIN, Issue 4 (16), 1948 (70-129)

9. Meteorologiya i Gidrologiya, No. 3, 1949, [redacted] Report U-2551, 30 Oct. 52.

313/10

[illegible]

"Relationship between Transparency and the Content of Suspended Substances", Trudy GOIN, No 18 (32), 1948 (117-139)

SO: U-3038, 11 Mar 1953

IVANOV, K. I., [redacted]

PA 172T31

USSR/Geophysics - Oceanography
Turbidity

11 Oct 50

"Coefficient of Light Attenuation as a Function of the Diameters of Particles Suspended in Water," K. I. Ivanov, State Oceanographic Inst, Main Adm of Hydrometeorol Sv

"Dok Ak Nauk SSSR" Vol LXXIV, No 5, pp 925-929

Organized experiments with Kaolin and clayey silt dild in distd water to clarify dependency between content of suspended substances and coeff of light attenuation. Found coeff of light attenuation for wave lengths above 300 mμ increases, reaches max for

172T31

[redacted]

USSR/Geophysics - Oceanography
(Contd)

11 Oct 50

particles with diam of 1.5μ, then drops sharply and asymptotically approaches axis. Suggests wt concn of suspended substances might be approximated by detg coeff of light attenuation, inasmuch as former quantity is usually difficult to det because concn is negligible, varying 0.2 - 2 mg/1 in sea waters. Submitted by Acad V. V. Shuleykin 15 Aug 50.

172T31

SKOPINTSEV, B.A.; IVANOV, K.I.

Use of photometric measurements in determining suspended particles and colored humic compounds in sea water. Trudy GOIN no.22:113-131 '52. (MIRA 12:1)

(Sea water--Analysis) (Photometry)

IVANOV, K.I.

Deposition of sediment in the sea off the mouth of the Kura River.
Trudy GOIN no.28:131-136 '55. (MLRA 9:6)
(Kura River--Sedimentation and deposition)

IVANOV, K.I., kand.tekhn.nauk; GRAMMATIKOV, Yu.A., inzh.

Investigating the bearing properties of coal pillars in a steep seam. Ugol' 40 no.3:30-33 Mr '65. (MIRA 18:4)

1. Institut gornogo dela im. A.A.Skochinskogo.

IVANOV, K.I.

Manufacture of cementless arbolit blocks at the production center of an interfarm building organization. Stroi. mat. 7 no.7:26-27 Jl '61. (MIRA 14:7)
(Zvenigorod District—Building materials industry)

KHESIN, Gennadiy L'vovich; BABENKOV, Igor' Sergeyevich; IVANOV, Konstantin Ivanovich; MEL'NIKOV, Ye.A., otv. red.; LEDOVSKAYA, V.V., red.; IVLEVA, I.P., red.

[Stress distribution in a boring instrument and in rock; static and dynamic investigation by the photoelastic method] Raspredelenie napriazhenii v burovom instrumente i porode; staticheskie i dinamicheskie issledovaniia metodom fotouprugosti. Moskva, TSentr. nauchno-issl. in-t informatsii i tekhniko-ekon. issledovanii ugol'noi promyshl., 1963. 89 p. (MIRA 17:4)

RUSAKOV, G.K., kand. sel'khoz. nauk; MILYAVSKIY, I.O., kand. sel'khoz. nauk; SHILKO, V.P., kand. sel'khoz. nauk; MARTINENAS, A.N.; BELINSKIY, A.I., agr.-ekonom.; KARPUSHENKO, A.I., agr.-ekon. [deceased]; POSMITNYY, V.M., ekonom.; PANCHENKO, Ya.I., agr.-ekonom.; KVACHEV, V.M., agr.-ekonom.; SOBOLENKO, V.S.; KRAVTSOV, D.S., agronom.; LYSOV, V.F., ekonom.; SHLYAKHTIN, V.I., kand. ekon. nauk; TSYBUL'KO, F.Ye.; ORIKHOVSKIY, I.G., agr.-ekonom.; TATUREVICH, N.M., agr.-ekonom.; GARMASH, I.I.; NOSACHENKO, V.F., inzh.-ekonom.; MUKHTISULLIN, Sh.M., agr.-ekonom.; ROZENTSVAYG, A.L., agr.-ekonom.; BERLIN, M.Z., dots.; IVANOV, K.I., agr.-ekonom.; SILIN, A.G., ekonom.; LIKHOT, I.K.; CHANOV, G.I., kand. ekon. nauk; MIKHAYLOV, M.V., kand. ekon. nauk; GORELIK, L.Ya., red.

[Planning and economical operation on collective farms] Planirovanie i rezhim ekonomii v kolkhozakh. Moskva, Ekonomika, 1965. 258 p. (MIRA 18:5)

1. Zaveduyushchiy otdelom ekonomiki i organizatsii kolkhoznogo proizvodstva Nauchno-issledovatel'skogo instituta ekonomiki sel'skogo khozyaystva Litovskoy SSR (for Martinenas). 2. Zaveduyushchiy otdelom Stavropol'skogo krayevogo komiteta KPSS (for Likhot).

MARTYNENKO, I.A., inzh.; MILYAYEV, I.S., inzh.; TUGAYEV, T.S., inzh.; KOTLYARSKIY, I.A., inzh.; MOREV, A.B., inzh.; MUDRYAK, V.A., inzh.; SUDOPLATOV, A.P., prof.; IVANOV, K.I., kand. tekhn. nauk; IGNAT'YEV, A.D., kand. tekhn. nauk; KOLYSHKIN, O.M., kand. tekhn. nauk; YEREMENKO, Ye.I., inzh.

Industrial testing of the auger drilling of coal with double spindle auger drilling machines. Ugol' 40 no.1:32-37 Ja '65. (MIRA 18:4)

1. Kombinat Ukrzapadugol' (for Martynenko, Milyayev, Tugayev). 2. Gorlovskiy mashinostroitel'nyy zavod im. S.M.Kirova (for Kotlyarskiy, Morev, Mudryak). 3. Institut gornogo dela im. A.A.Skochinskogo (for Sudoplatov, Ivanov, Ignat'yev, Kolyshkin, Mel'nikov, Yeremenko).

IVANOV, K.K.

Increase the rate of technological progress in construction of sea and river harbors. Transp. stroi. 12 no.12:1-3 D '62. (MIRA 16:1)

1. Nachal'nik tekhnicheskogo otdela Glavnogo upravleniya po stroitel'stvu morskikh i rechnykh sooruzheniy Ministerstva transportnogo stroitel'stva SSSR.
(Harbors) (Hydraulic engineering)

IVANOV, K.K.; BOGATYREV, M.F.

Fatal outcome after appendectomy. Sov. med. 25 no.2:110-114 F '62. (MIRA 15:3)

(APPENDECTOMY)
(DEATH--CAUSES)

GNUTENKO, A.A.; IVANOV, K.K. (Khabarovsk)

Disorders of the ear in acute leukemia. Vest.otorin. 23 no.2: 27-32 F '61. (MIRA 14:4)
(LEUKEMIA) (DEAFNESS) (EAR--DISEASES)

KHEYFETS, V.Z., kand.tekhn.nauk; ARST, G.A., inzh.; IVANOV, K.K., inzh.; SOLODOVNIKOV, V.A., inzh.

Devices for the control of underwater hydraulic engineering operations. Transp.stroi. 15 no.10:52-53 O '65.
(MIRA 18:12)

TOROPOVA, Ye.G.; GAVRILINA, G.V.; LIROVA, S.A.; IVANOV, K.K.

Formation of antibiotic 6613 in cultures of Actinomyces daghestanicus. Antibiotiki 4 no.5:11-14 S-O '59. (MIRA 13:2)

1. Institut po izyskaniyu novykh antibiotikov AMN SSSR.
(ANTIBIOTICS)
(ACTINOMYCES)

IVANOV, K.K.; KOVALENKOVA, V.K.; IL'ICHEVA, N.P.; GABRILINA, G.V.; LIROVA, S.A.

Fermentation conditions for organisms producing new antibiotics in an experimental plant. Antibiotiki 5 no.1:43-47 Ja-F '60. (MIRA 13:8)

1. Institut po izyskaniyu novykh antibiotikov AMN SSSR.
(ANTIBIOTICS) (FERMENTATION)

IVANOV, K.K.; KOVALENKOVA, V.K.; DAVYDOVA, T.A.; BORISOVA, V.N. Prinimali uchastiye; SOKOLOVA, L.B.; PROKHOROVA, T.G.; SHATILOVA, Z.K.; PYL'NEVA, L.I.; SEMENOVA, V.S.

Obtaining colimycin on an enriched medium. Med.prom. 14 no.11:13-16 N '60. (MIRA 13:11)

1. Institut po izyskaniu novykh antibiotikov AMN SSSR.
(NEOMYCIN)

IVANOV, K. K., GAVRILINA, G. V., KOVALENKOV, V. K., LIROVA, S. A., and SOKOLOVA, L. B. (USSR)

"Aerobic Respiration of Actinomyces circulatus, var. monomycini, Proactinomyces actinoides and other Actinomycetes in Deep Culture in Fermenters."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

IVANOV, K.K.; GAVRILINA, G.V ; KOVALENKOVA, V.K.; LIROVA, S.A.; SOKOLOVA, L.B.; Prinimali uchastiye: BOYARSKAYA, R.V., inzh.; PROKHOROVA, T.I., inzh.; SHATILOVA, Z.K., inzh.

Aeration and respiration of actinomycetes and proactinomycetes synthesizing antibiotics in fermentors in relation to biochemical changes in the culture media. Antibiotiki 6 no.11:984-989 N '61. (MIRA 15:3)

1. Institut po izyskaniyu novykh antibiotikov AMN SSSR.
(ACTINOMYCES) (ANTIBIOTICS)

IVANOV, K.K.; LIROVA, S.A.; DAVYDOVA, T.A.

Determination of the rate of oxygen dissolution and of the intensity of respiration of micro-organisms by means of gas analyzers. Lab. delo 7 no.7:45-48 Jl '61. (MIRA 14:6)

1. Institut po izyskaniyu novykh antibiotikov AMN SSSR.
(RESPIRATION) (ANTIBIOTICS)

IVANOV, K.K.; LANDAU, N.S.; SOKOLOVA, L.B.

Respiration of cultures of Actinomyces circulatus var. monomycini. Biosynthesis of monomycin on various culture media. Antibiotiki 8 no.1:18-27 Ja'63. (MIRA 16:6)

1. Institut po isyskaniyu novykh antibiotikov AMN SSSR.
(ANTINOMYCES) (MONOMYCIN)
(BACTERIOLOGY—CULTURES AND CULTURE MEDIA)

GAUZE, G.F.; KHORIN, V.A.; BRAZHNIKOVA, M.G.; PREOBRAZHENSKAYA, G.P. IVANITSKAYA, L.P.; LAVROVA, M.F.; USPENSKAYA, G.A.; GOL'DBERG, L.Ye.; STANISLAVSKAYA, M.S.; IVANOV, K.K.; KOVALENKOVA, V.K.

Monomycin , a new antibacterial antibiotic. Nauch. inform. Otd. nauch. med. inform. AMN SSSR no.1:39-40 '61 (MIRA 16:11)

1. Institut po izyskaniyu novykh antibiotikov (direktor - prof. G.F.Gauze) AMN SSSR, Moskva.

*

L 2665-65 EWG(j)/EWT(m)

ACCESSION NR: AP5010346 UR/0205/65/005/002/0243/0247

AUTHOR: Dubinchcheva, A. P.; Ivanov, K. K.; Sinilova, N. G.

TITLE: Effect of antigens and their degradation products on radioresistance of irradiated animals

TITLE: Effect of antigens and their degradation products on radioresistance of irradiated animals

SOURCE: Radiobiologiya, v. 5, no. 2, 1965, 243-247

TOPIC TAGS: animal, rat, mouse, radiation protection, radiation sickness, single radiation dose, bacteriologic culture, antigen, lipid, polysaccharide, degradation reaction

ABSTRACT: The radioprotective effect of bacterial antigen components (lipids, specific polysaccharides, and lipopolysaccharides) was [illegible] mice irradiated with sublethal and lethal [illegible] specific polysaccharide, and lipo- [illegible]

method. The preparations [illegible]

Card 1/3

ACCESSION NR: [illegible]

intravenously in small and large doses 24 hrs before gamma-irradiation (RUM-2 cobalt unit, 248 r/min) of animals with a single 600-750 r dose

ACCESSION NR: AP5010346

ASSOCIATION: Institut epidemiologii i mikrobiologii im. N. F. Gamalei AMN SSSR, Moscow (Institute of Epidemiology and Microbiology

NR REF SOV: 011 OTHER: 010

Card 3/3

IVANOV, K.K.; UVAROVA, R.N.; STEPANOVA, L.K.

Chemical composition of surface antigens of Salmonella paratyphi B. Vop. med. khim. 10 no.5:474-479 S-O '64.
(MIRA 18:11)

1. Otdel radiatsionnoy mikrobiologii i immunologii Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR, Moskva.

DUPLISHCHEVA, A.P.; IVANOV, K.K.; SINILOVA, N.G.

Effect of antigens and the products of their degradation on the radioresistance of irradiated animals. Radiobiologiia 5 no.2:243-247 '65. (MIRA 18:12)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR, Moskva.

KHASKHACHIKH, G.D., kand. tekhn. nauk; IVANOV, K.K., inzh.; VANCHAGOV, O.M., inzh.

Study of new types of enclosing structures. Transp. stroi. 14 no.10:43-47 O '64. (MIRA 18:3)

V[illegible], [illegible]; [illegible], [illegible]

Functional and morphological reorganization of the ileotrans- plant in the replacement of the sigmoid and rectum. Khirurgiia [illegible] (MIRA [illegible])

1. Kafedra gospital'noy khirurgii (zav. - prof. [illegible] Gleshkevich) Vitebskogo meditsinskogo instituta.

IVANOV, K.K., inzh.

Introducing the use of hydraulic units for tensioning the reinforcement of reinforced concrete elements. Transp. stroi. 14 no.12:22-25 D '64. (MIRA 19:1)

IVANOV, K. M.

"Raising the Fat Content in the Milk of the East Friesian Dairy Cattle on the Basis of a Purposeful Breeding Effort." Min. Higher Education USSR, Leningrad Agricultural Inst., Leningrad, 1955. (Dissertation for the Degree of Candidate in Agricultural Sciences)

SO: Knizhnaya Letopis', No. 22, 1955, pp 93-105

GAL'PERIN, M.A., kand.tekhn.nauk; ARDENTOV, V.V.; IVANOV, K.M., inzh.; KOPEL'MAN-SERPUKHOVA, Z.I.

Studying the effect of prolonged heat treatment on the physico-mechanical properties of deposited austenitic metal. Svarka 1:73-85 '58. (MIRA 12:8)

(Hard facing--Testing)
(Electrodes--Testing)
(Metals at high temperature)

GAL'PERIN, M.A., kand.tekhn.nauk; ARDENTOV, V.V., kand.tekhn.nauk; IVANOV, K.M., inzh.

Tendency toward intercrystallite corrosion in austenitic filler metal depending on temperature and time of aging. Svarka 2:71-76 '59. (MIRA 14:5)

(Steel--Corrosion) (Metals, Effect of temperature on)

AUTHORS: Saychenko, Yu.M., Ivanov, K.M.

TITLE: News in Brief (Korotkiye soobshcheniya)

32-24-6-30/44

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 6, pp. 757-758 (USSR)

ABSTRACT: Yu.M.Saychenko of Kazakh State University imeni S.M. Kirov (Kazakhskiy gosudarstvennyy universitet im. S.M.Kirova) in cooperation with G.S. Maksimova worked out a method for the reduction of the time of exposure in luminescence spectrograms used for sorting glass. A graph shows, among other things, that a quartz lamp serves as a light source and that light passes through the sample into a "horn" where it is absorbed. A comparison of the luminescence spectra of various types of glass is said to have shown that a decrease of the intensity of the luminescence spectrum takes place with an increase of the iron content in the samples. K.M. Ivanov of the All-Union Scientific Institute of Coal Research (Vsesoyuznyy nauchno-issledovatel'skiy ugol'nyy institut) worked out a spectral method making it possible to determine zinc in electrolyte solutions of up to 0.005%. A spectrograph ISP-22, a generator PS-39, a microphotometer MF-2, as well as an autotransformer TNR-10 which regulated voltage from 0 to 250 V

Card 1/2

News in Brief

were used. Bismuth was used as inner standard, the method of three etalons being used. A mixture of etalon powder and graphite was burned, and for analysis the electrolyte solution was steamed, dried, and burned with graphite powder. There is 1 figure.

1. Light 2. Spectroscopy 3. Electrolytes--Properties
4. Electrolytes--Analysis

Card 2/2

IVANOV, K.I., kand.

Effect of the cooling rate on the properties of the austenite-ferrite metal of the weld. Svar.proizv. 12:7-9 D '63.
(MIRA 18:9)

IVANOV, K.M.; PLOTNIKOV, A.M.

Device for bonding standard specimens. Plast.massy no.6:73-74 '60. (MIRA 13:11)

(Plastics) (Adhesion)

IVANOV, K.M.; GAZIZOVA, O.N.

Study of the microstructure of pipes made by winding on svam.
Plast.massy no.8:29-31 '60. (MIRA 13:10)
(Pipe, Plastic—Testing)

IVANOV, Kim Mikhaylovich; RYAZHSKIY, O., red.; GOLUBKOVA, G., tekhn. red.

[Seven-year plan in five years] Sem' - v piat'. Moskva, Izd-vo TsKVLKSM "Molodaia gvardiia," 1960. 53 p. (MIRA 15:4)

1. Sekretar' Leningradskogo gorodskogo komiteta Vsesoyuznogo Leninskogo Kommunisticheskogo soyuza molodezhi (for Ivanov).
(Leningrad—Socialist competition)

IVANOV, P.M., kand. sel'skokhoz. nauk; ZOLOTUKHIN, P.M.

Preliminary results of using hybrid bulls from the "Gorki Leninskiye" Farm in Leningrad Province. Agrobiologiia no.3:383-388 My-Je '65. (MIRA 18:11)

1. Severo-Zapadnyy nauchno-issledovatel'skiy institut sel'skogo khozyaystva, Leningradskaya oblast'.
2. Glavnyy zootekhnik opornogo punkta Respublikanskoy laboratorii po povysheniyu zhirnomolochnosti korov, Leningradskaya oblast' (for Zolotukhin).

IVANOV, K.M., master

Hooks for climbing 6 - 10 kv. reinforced concrete poles.
Energetik 11 no.7:25 Jl '63. (MIRA 16:8)

(Electric lines--Poles and towers)

ADAMOV, O.V.; IVANOV, K.N.

Length of short threads on pipes of sanitary engineering systems.
Vod. i san. tekh. no.11:15-17 N '59. (MIRA 13:3)
(Pipe fitting)

137-58-4-6735

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 62 (USSR)

AUTHORS: Tageyev, V.M., Ivanov, K.N., Bodyagin, D.Ya., Lavrent'yev, B.A.

TITLE. Improving the Quality of Steel Ingots and the Technical and Economic Level of Their Utilization (Uluchsheniye kachestva stal'nykh slitkov i tekhniko-ekonomicheskikh pokazateley ikh ispol'zovaniya)

PERIODICAL: V sb.: Metallurgiya. Moscow-Leningrad. AN SSSR, 1957, pp 65-76

ABSTRACT: The results of investigations by Leningrad metallurgists in the theory of crystallization and the mechanism of the origin of various types of inhomogeneities in steel ingots are set forth; new types of ingots for forging and rolling, designed on the basis thereof, are described. Data on the employment of specialized forging ingots with smaller shrinkage heads, without shrinkage head, and with greater taper (10-12%), and on the use of hollow ingots, are presented.

A.Sh.

Card 1/1

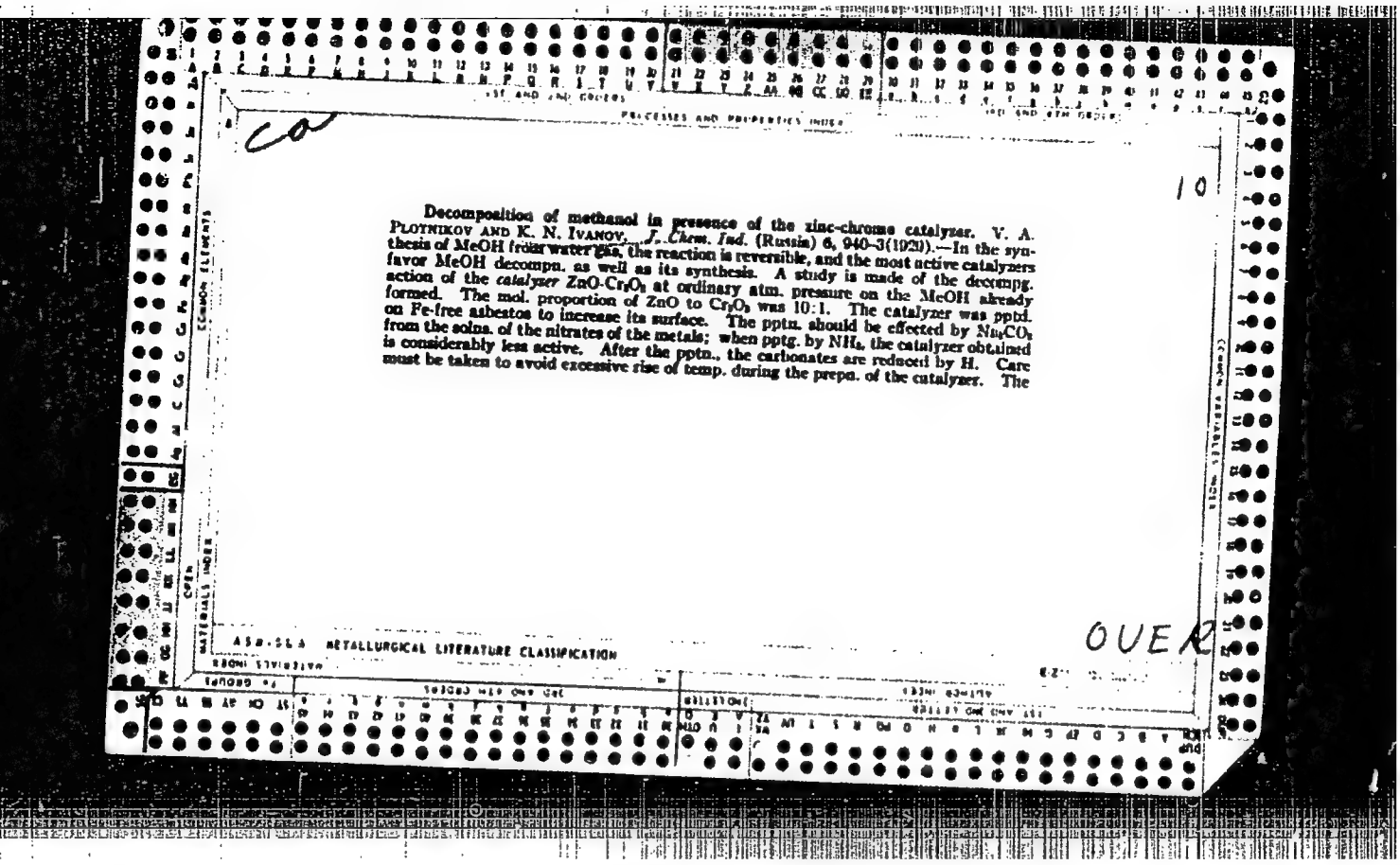
1. Steel ingots--Development 2. Crystallization--Theory

IVANOV, Konstantin Nikolayevich; SHAKHOV, Mikhail Alekseyevich; ZHERMUN-SKAYA, L.B., inzh., red.; SHILLING, V.A., red. izd-va; GVIRTS, V.L., tekhn. red.

[New high-strength structural steel 36KhNIMFA with low nickel content] Novaia vysokoprochnaia konstruktsionnaia stal' 36KhNIMFA s nizkim soderzhaniem nikelia. Leningrad, 1961. 17 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Metallovedenie i termicheskaia obrabotka, no.4) (MIRA 14:7)
(Steel, Structural)

GUBINA, A.A.; ZAKGEYM, Ye.N.; ZUSMANOVICH, V.M.; IVANOV, K.N.; LISITSYN, S.N.; MOZGOV, A.Ya.; PAVLOV, A.S.; PISKORSKIY, B.N.[deceased]; USHOMIRSKAYA, A.I.; FINKEL'SHTEYN, S.M.; CHISTOVSKIY, V.B.; SHER, S.Yu.; ADAMOV, O.V., nauchn. red.; BEYZERMAN, A.N., nauchn. red.; ZHIVOV, M.S., nauchn. red.; POGORELYY, P.P., nauchn. red.; STAROVEROV, I.G., nauchn. red.; STESHENKO, A.L., nauchn. red.; TSEYTLIN, M.M., nauchn. red.; KOKHANENKO, N.A., inzh., red.; VOLNYANSKIY, A.K., glav. red.

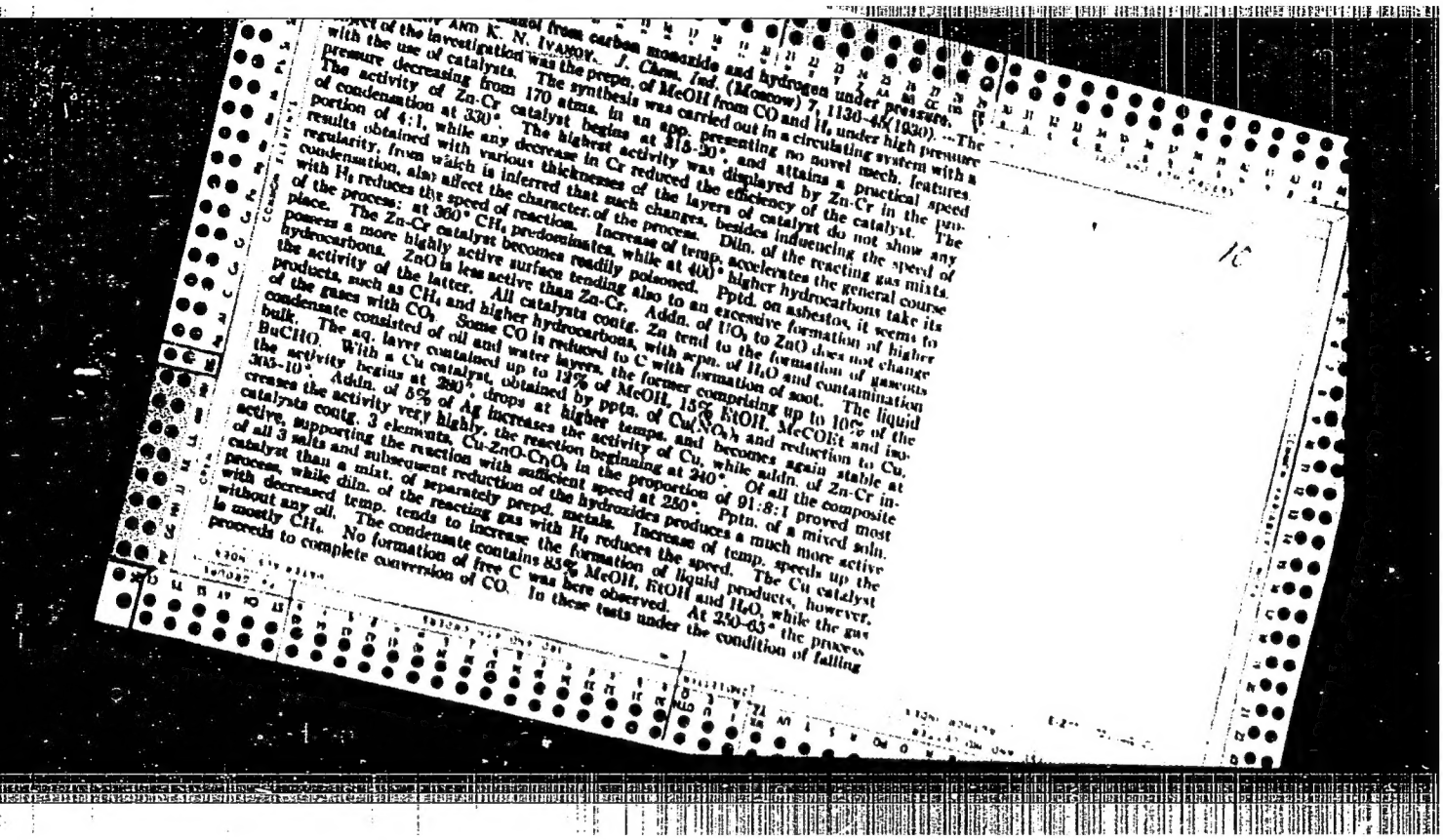
[Assembling interior sanitary equipment] Montazh vnutrennikh sanitarno-tekhnicheskikh ustroistv. Moskva, Stroiizdat, 1964. 725 p. (MIRA 17:8)

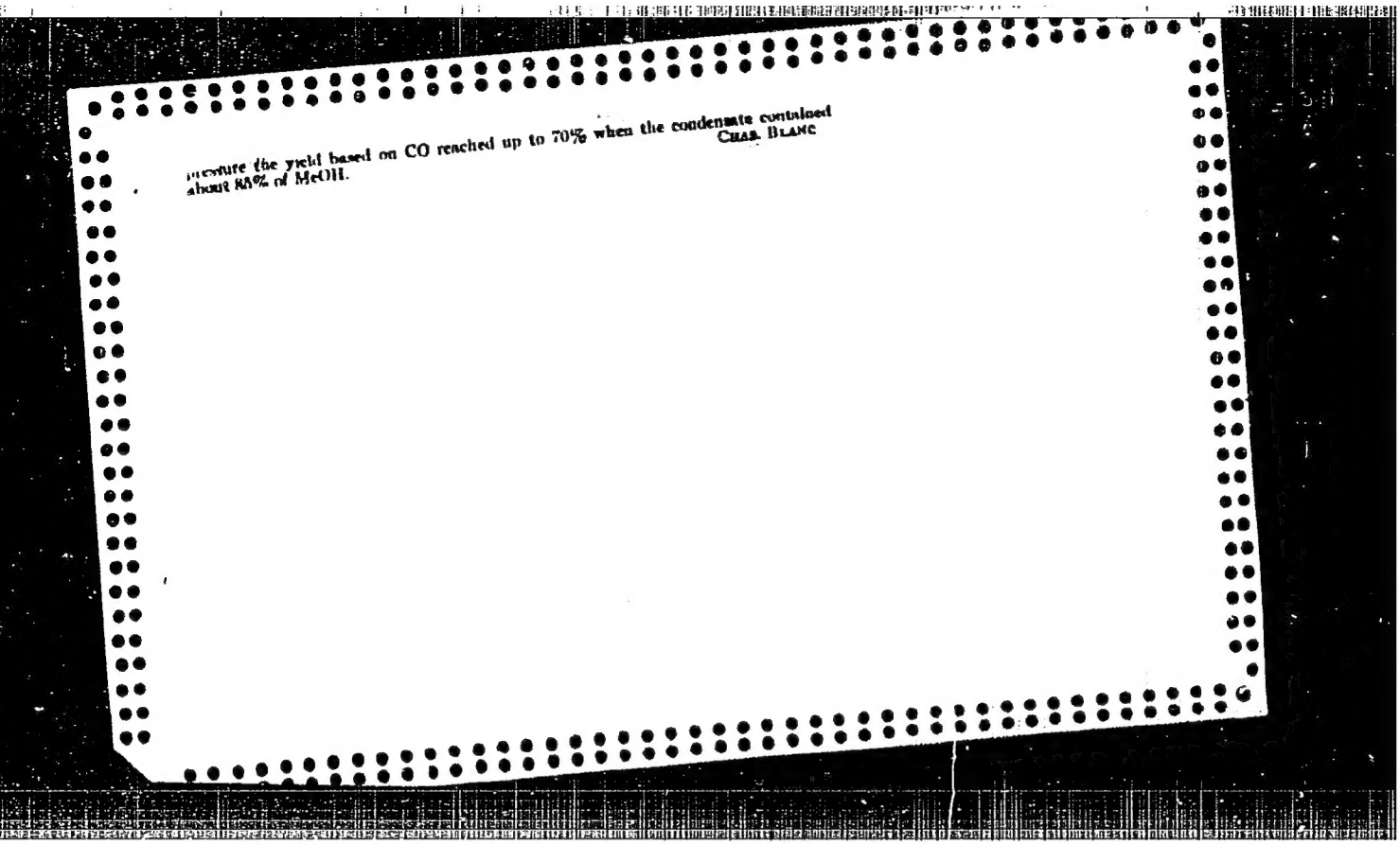


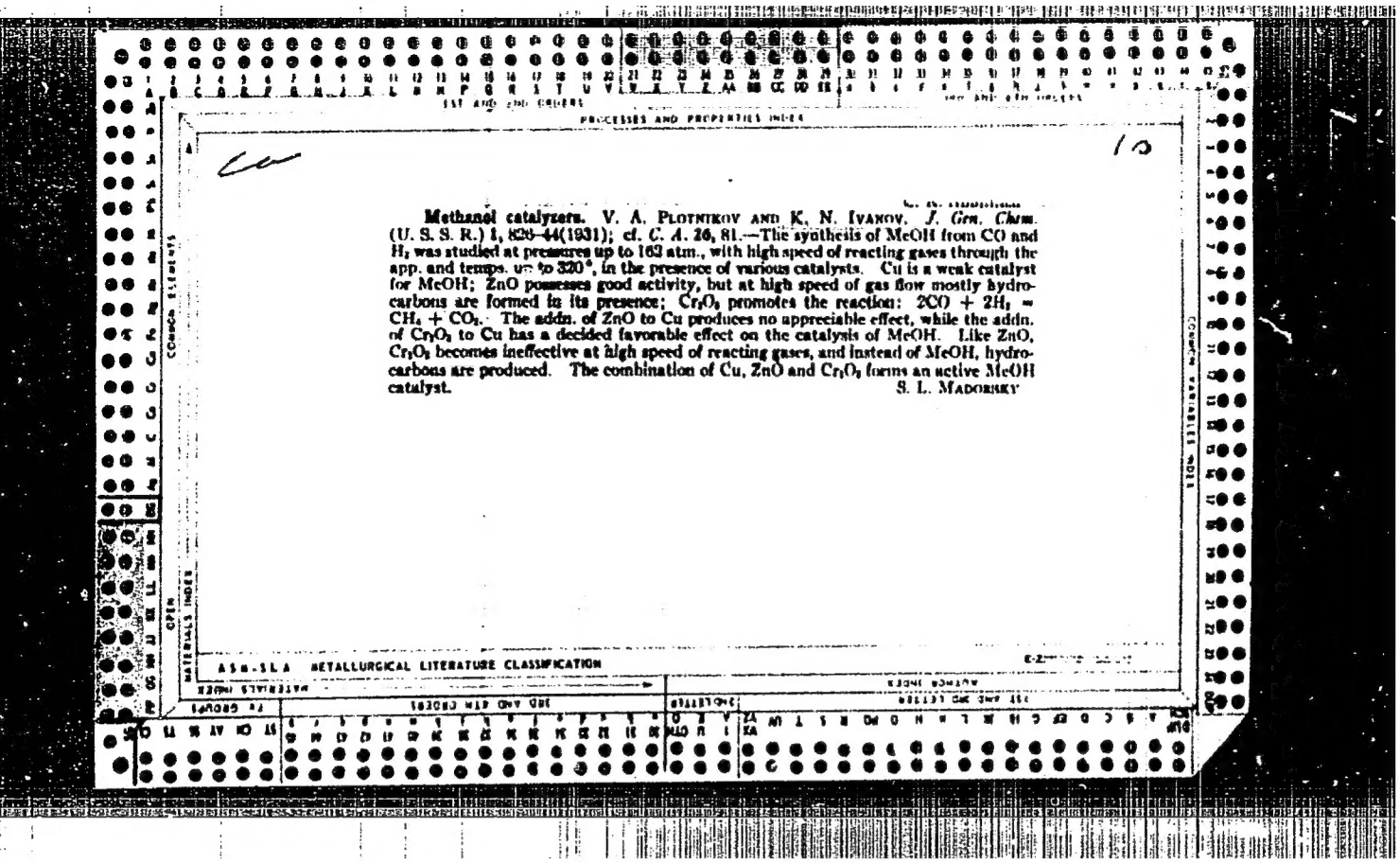
Decomposition of methanol in presence of the zinc-chrome catalyzer. V. A. PLOTNIKOV AND K. N. IVANOV. *J. Chem. Ind.* (Russia) 6, 940-3(1929).—In the synthesis of MeOH from water gas, the reaction is reversible, and the most active catalyzers favor MeOH decompn. as well as its synthesis. A study is made of the decompg. action of the *catalyzer* ZnO-Cr_2O_3 at ordinary atm. pressure on the MeOH already formed. The mol. proportion of ZnO to Cr_2O_3 was 10:1. The catalyzer was pptd. on Fe-free asbestos to increase its surface. The pptn. should be effected by Na_2CO_3 from the solns. of the nitrates of the metals; when pptg. by NH_4, the catalyzer obtained is considerably less active. After the pptn., the carbonates are reduced by H. Care must be taken to avoid excessive rise of temp. during the prepn. of the catalyzer. The

proportion of pure catalyzer to asbestos was 1:1, the total wt. of both being 9.5 g. *Apparatus.*—The MeOH from a buret entered a V-shaped glass tube heated in an oil bath to 150° where it evapd. and its vapors passed into a decompn. app. where they were first heated, then filtered through the catalyzer. The products obtained were cooled to liquefy and sep. the undecompd. MeOH, the vol. of which was measured in a buret, and the gases were collected in gasometers filled with acidified H_2O. *Influence of temp. and speed.*—The first bubbles of decompn. gas appear at 240–50°; with increase in temp. their quantity gradually increases and becomes particularly noticeable at 275–80°; at 300° the decompn. is already very intensive. P. and V. found it most convenient to pursue their investigation at 325°, the speed of passing in MeOH being 0.125 g. per min. At a greater rate of speed and at a higher temp., *e. g.*, 335–50°, a change takes place in the character of the decompn. and of the catalyzer itself, the MeOH decompg. 5 times faster than at 320–5° while non-condensable white gases are emitted; these vapors are products of HCHO polymerization, whereas the condensed product is trioxymethylene; the catalyzer blackens and a gray ring of volatilized Zn is formed, Zn being reduced at about 340–50°. Under normal conditions of speed and temp. the condensate consists chiefly of MeOH, whereas the gases consist of H, CO and CO_2. *Stability of the catalyzer.*—In agreement with the findings of Smith and Hawk (*C. A.* **22**, 1520) and contrary to the statements of Taylor and Kistiakovskii (*C. A.* **21**, 3804) and of P. V. Zimakov (*J. Chem. Ind.* (Russia) **5**, 1072(1928)), the CO_2 formed does not act as catalyzer poison, although it is strongly absorbed by the catalyzer. The catalyzer is very stable and after 57 hrs. of uninterrupted work shows no sign of fatigue.

BERNARD NELSON







Methanol catalyzers. V. A. Plotnikov and K. N. Ivanov. *J. Gen. Chem.* (U. S. S. R.) 1, 829–44(1931); cf. *C. A.* 26, 81.—The synthesis of MeOH from CO and H_2 was studied at pressures up to 102 atm., with high speed of reacting gases through the app. and temps. up to 320°, in the presence of various catalysts. Cu is a weak catalyst for MeOH; ZnO possesses good activity, but at high speed of gas flow mostly hydrocarbons are formed in its presence; Cr_2O_3 promotes the reaction: $2CO + 2H_2 = CH_4 + CO_2$. The addn. of ZnO to Cu produces no appreciable effect, while the addn. of Cr_2O_3 to Cu has a decided favorable effect on the catalysis of MeOH. Like ZnO, Cr_2O_3 becomes ineffective at high speed of reacting gases, and instead of MeOH, hydrocarbons are produced. The combination of Cu, ZnO and Cr_2O_3 forms an active MeOH catalyst.

S. L. Madorsky